DDS&T-271-87
7 May 1987

MEMORANDUM FOR: Director of Information Technology

FROM: James V. Hirsch
                  Associate Deputy Director for Science and Technology

SUBJECT: Comments on OIT's Letter of Intent (LOI)

E2,

1.   The attached commentary on your Letter of Intent (LOI) for a standard Agency workstation terminal was provided to me by the Office of Research and Development. The commentary raises a number of points about the wisdom of proceeding on the basis of the LOI. It seems as though we are ignoring some of the work we have done on Agency standards. The implicit hardware specifications that appear to direct one to an IBM system also seem ill advised.

2.   I would be interested in your reaction to these comments. We may have misinterpreted what you are trying to do.

                                        James V. Hirsch

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Attachment
   As Stated

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Comments on OIT's Letter of Intent (LOI)
dated 27 March, 1987

I.   **Standards Issues**

OIT Standard	LOI Reference	
3270 DFT A	C.3.4.1:	IBM 3278/9, Intecom connection
	C.3.4.1.1:	DFT A
	C.3.2.3.1:	3270 emulation
Document Content Architecture	Att. A:	requires Microsoft Word (DCA)
Document Interchange Architecture	No mention	
SQL DataBase Compatibility	Att. A:	requires dBase III Plus (nonSQL)
SNA Direction	C.3.4.1.1:	SNA and nonSNA controllers
Local Area Networks (proposed)	C.3.4.2:	Whatever IBM provides

II. **Exclusion Issues:** Many of the sections detailed below require the features of an IBM PC/AT or a clone. If IBM compatibility is required, it should be in terms of the functionality of or compatibility with a PC/AT. Otherwise only IBM and the clones can be procured. The Macintosh II and Xerox 1186, at least, provide a degree of PC/AT functionality without providing the exact features found in the AT package (half-height drives, 3270 keyboard, 2-button mice, etc.)

1.   In section C.3.1.1, the phrase "full hardware and software compatibility with the IBM PC/AT is required" is blatantly exclusionary without stating what the test for compatibility is. Nowhere in the LOI is such a degree of compatibility justified.

2.   In section C.3.2.3.2, Enhanced Network Workstations, the same kinds of issues as in the previous section are present.

3.   In section C.3.3.1, the phrase "Internal mounting space shall be provided for 2 half-height and 1 full-height device" is meaningless outside

the context of PCs and clones. This excludes for no specified reason products from Apple, Sun, DEC that may be very usable by DS&T offices.

4. In section C.3.3.1.1, using the term standard processor to refer to the 80286 is overly restrictive. A phrase like "the workstation shall offer an 80286 processor as either the primary or an alternate processor" would accomplish the same end and be less restrictive. Similarly in section C.3.3.1.2.1

5. In section C.3.3.1.3, the requirement for an "Industry standard external data bus" sounds like it excludes Nu bus as used on the Macintosh II, the Texas Instruments Explorer, and the LMI Lambda. This should be justified somewhere or omitted.

6. In section C.3.3.3.1 and C.3.3.3.2, the requirement for 'industry standard 5 1/4" diskettes' with 360KB and 1.2MB capacity requires clones. A company that uses more modern systems are saddled with otherwise unnecessary costs. A better spec would require that either 5 1/4" or 3.5" be offered.

7. Sections C.3.3.4.1-C.3.3.4.4 require that color and monochrome monitors support the IBM-standard EGA and/or CGA. This is unnecessary for nonIBM systems. The important parts are the functional specs: the resolution and size.

8. Section C.3.3.5.1, Keyboards, are unnecessarily restrictive and eliminate nonclones.

9. Section C.3.3.5.2.1, Mouse, requires a 2-button mouse and compatibility with the Microsoft mouse. This is arbitrary and unjustifiable.

10. Section C.3.4.1.5, File transfer, requires the compatibility with a specific IBM product. This may not even be legal for someone other than IBM to provide. Similarly for sections C.3.4.1.7.1 and C.3.4.1.7.2.

11. Section C.3.5.1.2, suggests Microsoft Windows as a desirable option. It may be for IBM PC/ATs (although the OIT PC store does not yet stock it). It is unnecessary for Apples, Suns, Xeroxes, etc.

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12. Attachment A, Sponsor Standard Applications, requires specific software packages be available. No justification is provided. Even within OIT's PC/AT user community there is substantial controversy about the programs

III. Overly Expensive Issues

1. In section C.3.3.3, the requirement for a "minimum of 4 local mass storage devices ... per workstation" is nowhere justified, and is excessive. A minimum of one fixed and one removable is sufficient.

2. In section C.3.4 (especially C.3.4.1.8), the desired compatibility with IBM's SRPI is unnecessary since IBM's direction no longer includes SRPI, and IBM was the only company to support it.

IV. Failure to be "evolvable with mainstream industry technology" Issues

1. In section C.3.1.1, the phrase "minimize use of proprietary protocols, ..." may eliminate acquisition of the new line of IBM workstations (PS/2), since they make heavy use of proprietary technology and protocols in their new bus.

2. In section C.3.3.1.3, the requirement for an "Industry standard external data bus" sounds like it excludes the PS/2.

3. In section C.3.3.3.1 and C.3.3.3.2, the requirement for 'industry standard 5 1/4" diskettes' with 360KB and 1.2MB capacity excludes the PS/2 and Macintosh II for no speciable reason.

V. Security Issues

1. In section C.3.3.3, the requirement for "combinations of flexible diskette and fixed and removable media storage" may go against the ISB's direction for secure systems. They have expressed a dislike of diskettes and other removable media.

2. In section C.3.4.2, the mention of Local Area Networks has no discussion of security features. This should not be acceptable as it stands.

VI. General Narrative Comments

Section	Comments
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C.1	Good Introduction. Topology is accurate if restrictive for DS&T purposes, since it will require outbuilding offices (most DS&T) to go elsewhere for support. Sponsor's Goals section is fine. Few are met by LOI.
C.2	Reasonable, if limited. Office applications in DS&T can work with that topology, especially if connection through 3274/3174 controllers is fully supported. Remainder of LOI is not relevant to SNA controller-support
C.3.1	Technical Specifications, General Requirements. Aside from the excessive restrictions of C3.1.1 "Open Architecture" (see ¶s II.2 and IV.1 above), no apparent problems
C.3.2.2	Footprint. 750 in^2 is a pretty big footprint (35" x 20"). Is it accurate? Does it include a local printer?
C.3.3	Contains the bulk of the unnecessarily restrictive phrases. Collectively they exclude systems other than the IBM PC/AT and clones.
C.3.4	Communications section actually requires compatibility with a set of specific IBM products.
C3.5-3.11, 4	No particular problems
Attachment A:	Listing 5 arbitrary, nonstandard programs as the keys without any justification just doesn't make much sense.